



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

6372

May 27, 2015

Bruce Allen
United States Gypsum Company
78 North State Street
Sigurd, Utah 84657

Subject: Review of Amended Notice of Intention to Commence Large Mining Operations and Directive to Provide Reclamation Surety, United States Gypsum Company, Jumbo-Jensen Mine, M/041/0008, Sevier County, Utah

Dear Mr. Allen:

The Division of Oil, Gas and Mining has reviewed the maps submitted as an amendment to the referenced Notice of Intention to Commence Large Mining Operations (Notice). This amendment was received December 3, 2014. Please see the enclosed comments, which will need to be addressed before the Division can approve the amended maps.

Rule R647-4-113.6 states that the surety amount may be adjusted if required to address changes in the reclamation plan due to an amendment or revision to the Notice, or as a result of a periodic review by the Division. As a result of the Division's ongoing Notice review process and inspection findings, the Division has determined that the current reclamation surety amount of \$372,300 is likely inadequate to fully reclaim the existing permitted disturbances at the Jumbo Jensen Mine. **Accordingly, by July 31, 2015, U. S. Gypsum is directed to:**

- 1) **Provide increased reclamation surety in the total amount of \$1,574,000.** This amount was proposed by U.S. Gypsum in an email dated December 3, 2014, based on third-party reclamation costs. Contact Penny Berry at 801-538-5291 with questions regarding changes to the existing or new reclamation surety documents.
- 2) **Amend the Notice by providing replacement text and updated maps using the provided review comments, consistent with active and planned operations.** The Division recommends using the Division's large mine Notice form which will be or has been provided. The Notice should be formatted to easily incorporate additional revisions and amendments.

AND



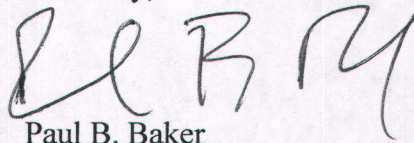
- 3) **Provide an updated reclamation cost estimate**, consistent with the enclosed comments and the modified Notice, and using current, published heavy equipment costs (such as R.S. Means).

Since reclamation evaluation inspections were ongoing and maps were not complete, the Division has not approved the proposed surety amount or reclamation cost estimate provided in 2014. While this required surety amount may not currently be accurate, the Division will accept this amount until the modified Notice and reclamation cost calculations are approved, at which time the reclamation surety will need to be adjusted accordingly.

After the maps and reclamation cost estimate are determined to be technically complete, the Division will ask that you submit two clean copies of the complete and corrected Notice. Upon final approval, both copies will be stamped approved, and one will be returned for your records.

Please contact Peter Brinton at 801-538-5258 if you have questions about this review. Thank you for your patience and cooperation in completing this permitting action.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. B. Baker', with a stylized flourish at the end.

Paul B. Baker
Minerals Program Manager

PBB: pnb: eb

Attachment: Review comments

cc: Clay Shumway, USG; cshumway@usg.com

Jane Mathisen, USG; k.jane.mathisen@gmail.com

P:\GROUPS\MINERALS\WP\M041-Sevier\M0410008-JumboJensen\Final\REV1-6372-05192015-pbb.docx

Review
Page 3 of 9
M/041/0008
May 20, 2015

**REVIEW OF NOTICE OF INTENTION
TO COMMENCE LARGE MINING OPERATIONS**

**United States Gypsum Company
Jumbo-Jensen Quarry**

**M/041/0008
May 20, 2015**

General Comments:

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
3	General	The Division has a form for a Notice of Intention to Commence Large Mining Operations and requests that you use this form. Please contact the Division for more information.	pnb	
4	Attachment A	Update Attachment A based on the current land status and also future plans, consistent with the maps.	pnb	

R647-4-105 - Maps, Drawings & Photographs

105.1 - Topographic base map, boundaries, pre-act disturbance

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
5	General	Provide a basic topographic map to identify the location of the mine relative to the nearest town or public highway.	pnb	

105.2 - Surface facilities map

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
6	General	Change the masks and other properties of the labels and polygons so they are legible and consistent (e.g. see the J12-J16, Wishbone, and Mammoth labels).	pnb	
7	General	Show the major contours and at least some major contour elevations on the maps.	pnb	
8	General	Please change the color of the "Recontoured, not seeded" designation from gray to some other more visible color (or change the color of the polygon boundary).	pnb	
9	Jensen Map	Include the north boundary of USG's private land.	pnb	
10	General	It would help if the color schemes for identifying mining and reclamation statuses were the same between the two general mining areas (e.g. "Active + 5 year mining" should be the same color on both maps).	pnb	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
11	Jensen Map	On the map, show and appropriately label the following: 1) the scale and scale units, 2) contour elevations (major contours), 3) the property boundary, 4) buildings (for storage, etc), 5) utilities (pipelines, power lines, etc) 6) the boundary of the landfill permitted with DEQ, 7) topsoil storage (where applicable), 8) significant areas of overburden storage (such as for active + 5 year polygons measuring over 10 acres in size), 9) areas of nearby current or prior mining for which you are not responsible (such as any Georgia-Pacific disturbances shown), and 10) symbols in the legend for each of these features, where present.	pnb	
12	Jensen Map - Roads	Clearly identify and categorize the various roads that are visible on the aerial photos and from the topographic lines, but that have not yet been identified. Specifically, categorize the roads as: 1) new (post-1976) mining-related roads, 2) widened existing roads, and 3) any roads not associated with mining operations.	pnb	
13	Jensen Map – Oil Well	Update the map to reflect the current or near-future status of the Carter Peak oil pad area. Identify the location of the well. If the area is no longer active, permitted, or bonded under the Oil & Gas program (or soon will not be), return the polygon to the appropriate color coding, or else identify the status in the legend.	pnb	
14	Jensen Map	Modify the map scale so that it incorporates all of the USG lands. For example, area 2-1B (and any disturbances on USG lands to the north) should be shown.	pnb	
15	Jensen Map	Show what appears to be a reclaimed area just south of 6A and that is not yet shown on the map.	pnb	
16	Jensen Map	Ungraded dump slopes (such as slopes in J45 and 46) should be identified as mine disturbance.	pnb	
17	Jumbo Map	On the map, identify the following: 1) the title of the map (such as to identify the Jumbo quarry area), 2) the scale and scale units, 3) the property boundary, 4) buildings (for storage, etc), 5) utilities (pipelines, power lines, etc) 6) the boundary and acres of the landfill permitted with DEQ, 7) topsoil storage (where applicable/required), 8) significant areas of overburden storage (such as for active + 5 year polygons measuring over 10 acres in size), 9) areas of nearby current or prior mining for which you are not responsible (such as any Georgia-Pacific disturbances shown), and 10) symbols in the legend for each of these features, where present.	pnb	
18	Jumbo Map	Provide a map at a slightly smaller scale that still incorporates all of the USG lands.	pnb	
19	Jumbo Map	Identify the disturbances that continue beyond the property boundaries (such as in the Mammoth area, and area labeled Area: 11.50 east of Dink Hill). If it is non-USG disturbance (pre-law or not), then that should be identified.	pnb	
20	Jumbo Map	Modify or remove most of the solid yellow block between J40-42 and J7-J9 labels, since most of it doesn't cover any pre-law disturbance, based on aerial photos.	pnb	

Review

Page 5 of 9

M/041/0008

May 20, 2015

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
21	Jumbo Map	Change the color of the yellow Borrow Pit located south of the red borrow pit (currently marked as pre-law) to red, since aerial photos show that it has been re-disturbed since 2006.	pnb	
22	Jumbo Map	Aerial photos show the High Quarry pre-law area extending to the north and south of the current boundaries. Change the boundaries to be consistent with the aerial photos.	pnb	
23	Jumbo Map	Expand and correctly identify the status of the areas north of J45 to include mined/regraded areas visible on aerial photographs.	pnb	
24	Jumbo Map	Identify the status of disturbed areas west of the J40-42 label that are not classified.	pnb	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
25	Jensen-Hydrology Map (new map)	Provide the following hydrological information for the mining areas and within 500 feet of mining boundaries. The Division suggests this should be on a new map. <ol style="list-style-type: none"> 1) watershed boundaries, 2) surface elevation contour lines, 3) the locations of perennial streams, springs, or other bodies of water (such as the One Month Spring), 4) defined drainage channels, 5) the nature of the channels (dry/perennial/intermittent), 6) the locations of drainage control structures (ditches, sediment/runoff control basins, berms, culverts, outfalls to native drainages, etc), 7) wells (water, oil, other boreholes), and 8) symbols in the legend for each of these features. 	pnb	
26	Jensen-Reclamation Treatments Map (new map)	Identify what reclamation treatments are planned for the mining areas, consistent with the reclamation plan and the reclamation practices in R647-4-111. The Division suggests this should be on a new map. A few examples of reclamation treatments include regrading of waste rock (including areas steeper than 2H:1V), ripping of roads, reseeding, demolition of permitted structures, capping of the landfill (consistent with DEQ requirements), etc. Identify features (such as any solid rock slopes, cuts, or roads) that are approved to be left as part of the post-mining land use.	pnb	
27	Jumbo - Hydrology (new map) Map	Provide the following hydrological information for the mining area and within 500 feet of mining boundaries. The Division suggests this should be on a new map. <ol style="list-style-type: none"> 1) watershed boundaries, 2) surface elevation contour lines, 3) the locations of perennial streams, springs, or other bodies of water (such as the One Month Spring), 4) defined drainage channels, 5) the nature of the channels (dry/perennial/intermittent), and 6) the locations of drainage control structures (ditches, sediment/runoff control basins, berms, culverts, outfalls to native drainages, etc), 7) wells (water, oil, other boreholes), and 8) symbols in the legend for each of these features. 	pnb	

Review
Page 6 of 9
M/041/0008
May 20, 2015

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
28	Jumbo— Reclamation Treatments (new map) Map	Identify what reclamation treatments are planned for the mining areas, consistent with the reclamation plan and the reclamation practices in R647-4-111. The Division suggests this should be on a new map. A few examples of reclamation treatments include regrading of waste rock (including areas steeper than 2H:1V), ripping of roads, reseeding, demolition of permitted structures, capping of the landfill (consistent with DEQ requirements), etc. Also identify features (such as any solid rock slopes, non-graded slopes, or roads) that are approved to be left as part of the post-mining land use.	pnb	

R647-4-109 - Impact Assessment

109.2 - Impacts to threatened & endangered wildlife/habitat

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
	Omission	Consistent with rule R647-4-109.2, identify potential impacts to state and federal threatened and endangered species or their critical habitats. Please include potential impacts to the species <i>Eriogonum mitophyllum</i> , threadleaf buckwheat, <i>Mentzelia argillosa</i> , Arapien stickleaf, and <i>Phacelia utahensis</i> , Utah phacelia, since this rule applies “at a minimum” to threatened and endangered species.	pbb & pnb	

109.5 - Actions to mitigate impacts

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
	Omission	Please identify actions to mitigate impacts to threatened, endangered, and other rare species of concern or these species’ habitats, including threadleaf buckwheat, Arapien stickleaf, and Utah phacelia.	pbb	

R647-4-113 – Surety (review comments of the 2014 version of reclamation cost calculations)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
29	General	The Division requests that the reclamation cost estimate be calculated using the Division’s spreadsheets. In 2012, Jeremy Taylor provided calculations on the Division’s forms. See the 2012 review comments below.	pnb	
30	Earthwork	Identify the source and method of volume calculations for recontouring pit surfaces.	pnb	
31	Monitoring	The cost estimate includes money for monitoring, but no monitoring is required by commitments in the Notice.	pnb	

R647-4-113 – Surety (draft review comments of 2012 reclamation cost calculations, for reference)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action

Review

Page 7 of 9

M/041/0008

May 20, 2015

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
		Please review these draft 2012 review comments below for reference in preparing a new reclamation cost estimate. The Division requests that you calculate reclamation surety using the Division's calculation sheets. In 2012, Jeremy Taylor provided calculations on these forms, and a hardcopy of draft Division comments were given to him during an inspection. Because the maps and acreage calculations were not yet finalized, review comments and cost calculations were not finalized.	pnb	
1a	General	Include the costs to reclaim the 7.6 miles of road, unless approval from the county or landowners has already been granted. If documentation is provided of an arrangement to leave the haul road when the mine life is over, then reclamation will not be required. Until an arrangement has been formalized, reclamation surety to cover road reclamation will be required. If the road can be shown to have existed prior to mining operations, then the road will not need to be reclaimed, except for that amount by which it may have been widened or otherwise modified.	pnb	
2a	General	Please include the USG Powder Magazine area and the USG Landfill Cell 1 in the reclamation costs, since they are also mining-related disturbance.	pnb	
3a	Recl. Cost Summary	Unit costs have been provided in 2011 values, not current values. These values will need to be provided in current dollars.	pnb	
4a	Recl. Cost Summary	The projected 5-year escalation rate is 1.2%. Please change the escalation rate to the correct value.	pnb	
5a	Recl. Cost Calculation Summary	Change the Bond Amount text to indicate the year to which the total cost has been adjusted to account for inflation (5 years from the year of the current calculations), not 2013 dollars.	pnb	
6a	Worksheets 5 and 10 – Both Quarries	Please include the source of the volumes to be moved (ie. how they were calculated). It is assumed that the reported volumes are those required to take down highwalls under conditions not represented by Worksheet 6. Please explain/clarify (in the comment boxes) the need for the dozer and excavator work beyond the work associated with dozing of the total disturbed acres (Worksheet 6).	pnb	
7a	Worksheet 5 - Jensen	If correct, please identify the worksheet as applying to the Jensen Quarry.	pnb	
8a	Worksheet 5 - Both Quarries	The normal hourly production projected is quite low, compared to the CAT handbook values for a D8. Cite your sources or modify. Add assumptions about dozer haul/push distance, origin/destination, grade, etc.	pnb	
9a	Worksheet 5 - Both Quarries	Update the adjustment factors: Operator – 0.75 Efficiency – 0.83	pnb	
10a	Worksheet 6	The total acreage to be graded should also include the projected disturbance for the 5-yr mining plan.	pnb	
11a	Worksheet 6	I would expect the effective blade width to be larger based on the CAT handbook.	pnb	
12a	Worksheet 6 – Both Quarries	Update the adjustment factors: Operator – 0.75 Efficiency – 0.83	pnb	

Review

Page 8 of 9

M/041/0008

May 20, 2015

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
13a	Worksheet 10	Will the volume to be handled be the same as that which the dozer will handle? Modify as needed.	pnb	
14a	Worksheet 12	The speed of 8 mph for the grader appears high, as 3 mph is typical for ripping according to the CAT handbook.	pnb	
15a	Worksheet 12	The maximum efficiency factor for this activity is projected to be 0.85 by the CAT handbook.	pnb	
16a	Demo Cost Sheet 1	Please make a note indicating that the costs listed here include disposal costs. Alternatively, remove this sheet and provide the following sheet with information updated to include the water tank disposal.	pnb	
17a	Demo Cost Sheet 1	The water tank removal costs (both unit cost and total cost) do not appear to match the RS Means reference provided in either 2011 or 2012.	pnb	
18a	Demo Cost Sheet 2	Please provide corrected unit costs in current dollars. Contact the Division if you want assistance in identifying values.	pnb	
19a	Demo Cost Sheet 2	The unit disposal cost at Sevier County landfill is slightly different for the disposal of the Cap Magazine. Please correct. This number was used in the 2008 calculation. Correct all uses if the number has changed since 2008.	pnb	
20a	Demo Cost Sheet 2	Provide the projected volume of the fence in order to calculate the disposal costs at the landfill. It should be more than 1 yd ³ .	pnb	
21a	Duplicates of Earthwork Cost Sheets	Remove the extra two pages of "Backfill and Grading – Earthwork" calculations for the Jumbo and Jensen quarries. Ensure that the labels for the columns are consistent and correct, and some variation exists between sheets.	pnb	
22a	Earthwork Cost Sheet	Update the production rates based on any changes made to the Worksheets.	pnb	
23a	Earthwork Cost Sheet	The pickup truck hours of operation can be lowered, if it is not expected that it will be running for all of the hours that the dozer is operating.	pnb	
24a	Earthwork Cost Sheet	Correct the listed operator wages for the Hydraulic Excavator and the Grader Ripper.	pnb	
25a	Earthwork Cost Sheet	If the total volumes of materials to be moved during reclamation of the Jumbo and Jensen quarries are 14,918 yds ³ and 27,276 yds ³ , respectively, then these total amounts may not need to be moved by both the excavator and the bulldozer, as current calculations suggest. If so, please correct the volumes accordingly.	pnb	
26a	Earthwork Cost Sheet	The Division requests that you use the wage rates from RS Means. Please contact the Division for that information.	pnb	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
27a	Earthwork Cost Sheet	<p>Some changes need to be made to the calculations used on this page, as follows. This is not necessarily clear when calculations are being set up. It also appears that the equipment overhead has not been included in the equipment cost. The overhead should be included as follows:</p> <p>Hourly Cost (\$/hr) = Modified Hourly Operating Cost + Wage Rate + Equipment Rate</p> <p>Modified Hourly Operating Cost (\$/hr) = Hourly Operating Cost (\$/hr) + [Overhead Ratio * Hourly Operating Cost (\$/hr)]</p> <p>Equipment Rate (\$/hr) = [Monthly Rental Rate (\$/mo.) / 176 hr/mo.] + [Equipment Overhead Ratio * Monthly Rental Rate (\$/mo.) / 176 hr/mo.]</p> <p>Provide a referenced Monthly Rental Rate in the Equipment Cost column. Equipment Overhead Ratio = 0.1</p>	pnb	
28a	Earthwork Cost Sheet	<p>Your calculation method is valid as performed:</p> <p>Operating Cost (\$/hr) * Volume Moved (yds³) / Production (yds³/hr),</p> <p>but the sources for your costs are not the RS Means reference numbers provided in that line and used for cost calculation. Please provide the correct RS Means reference numbers (or other valid reference information) for the cost information used in these calculations.</p>	pnb	
29a	Earthwork Cost Sheet	<p>Some rental costs are not readily verifiable. This may be due to confusion with the calculation set-up. Please contact the Division if you want assistance with identifying current rental costs from RS Means or Blue Book.</p>	pnb	